

## **REMARKS**

### **I. INTRODUCTION**

Claims 1, 4, and 20 have been amended. Claims 3, 10, 19 and 25 have been cancelled. The limitations of cancelled claim 3 have been incorporated into claims 1 and 20. Thus, claims 1, 2, 4-9, 11-18, 20-24, and 26-29 remain pending in the present application. No new matter has been added. In light of the above amendments and the following remarks, Applicant respectfully submits that all presently pending claims are in condition for allowance.

### **II. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN**

Claims 1-19 stand rejected under 35 U.S.C. §103(a) for being obvious over Fesco (U.S. Patent No. 3,738,091) in view of Zhang (U.S. Patent No. 6,156,086).

Claim 1, as amended, recites, “A filter bag for a vacuum cleaner, comprising: a substantially tubular bag made from a bag material having at least one non woven composite layer, the bag having a closed free end area and an at least partially closed area opposite the closed free end area; and a retaining plate, wherein edges of the bag are at least partially interconnected by a weld seam to form the at least partially closed area, and wherein *a bottom of the bag is formed by at least partially interconnecting plies of the bag material at least in areas in which plies of the bag material lie one above the other, wherein the plies are interconnected by welding*, and wherein a pre-crease is introduced into the bag material substantially parallel to the weld seam in the bottom.”

Initially, Applicant notes that Fesco and Zhang disclose two entirely different bags. Fesco’s filter bag is made by a method consisting of a sequence of deforming a blank 40, which comprises a plurality of panels and folding lines. (*Id.*, col. 3, ll. 19-65, Fig. 6). After creating the bag using the method disclosed by Fesco, the “provision of the adhesive defined by the stippled areas on the panels 48 and 62 respectively permits the bag 20 to be closed at the opposite end thereof. (*Id.*, col. 5, ll. 66-68). The resulting bag in Fesco is one with a rectangular cross-section. (*Id.* at Fig. 4). The bottom of this bag,

which is square, is the side from which dust enters the bag and is reinforced with a collar (30). Fesco's filter bag is made from paper. (*Id.* at col. 2, l. 68). So, Fesco discloses a square-bottom filter bag constructed from paper and is formed by the folding and gluing of a blank (40). However, Fesco is silent regarding "*a bottom of the bag is formed by at least partially interconnecting plies of the bag material at least in areas in which plies of the bag material lie one above the other, wherein the plies are interconnected by welding.*"

In contrast, Zhang discloses a filter bag which is flat. (*See* Zhang, Figs. 3-4). This filter bag is formed by overlapping two layers, which are connected at their edges in order to create an inner space (26). Dust enters the space (26) inside this filter bag through the opening (28) in a collar (27). (*Id.* at col. 8, ll. 57-58, Fig. 3). Zhang discloses that the side walls of this filter bag are joined by seams. (*Id.* at Abstract). The edges of the filter bag material are welded to form the bag. (*Id.* at col. 7, ll. 64-65). However, since the bottom of the bag is completely flat and does not include any seams, Zhang is silent regarding "*a bottom of the bag is formed by at least partially interconnecting plies of the bag material at least in areas in which plies of the bag material lie one above the other, wherein the plies are interconnected by welding.*"

Applicant respectfully submits that a filter bag with a rectangular cross-section, as disclosed by Fesco, and a flat filter bag, as disclosed by Zhang, are markedly different because they are constructed in entirely different ways. This is evidenced by the two bags' entirely different geometrical alignment of their respective materials to be interconnected. According to Zhang, the layers are laid parallel to each other and connected at their edges by welding. In contrast, the layers in Fesco form a side seam in which the layers are not parallel. (*See* Fesco, Fig. 4). Accordingly, it is respectfully submitted that one of ordinary skill in the art would not seek to combine the teachings of Fesco and Zhang.

Furthermore, even if one of ordinary skill in the art would combine the teachings of Fesco and Zhang (which Applicants do NOT concede), the resulting filter bag would

be one in which the side seam is formed by welding. However, since Zhang's filter bag does not include a bottom portion *formed by at least partially interconnecting plies of the bag material at least in areas in which plies of the bag material lie one above the other*, then the resulting filter bag would include a bottom which is formed according to the Fesco disclosure (i.e. by gluing the plied forming the bottom). (See Fesco, col. 5, ll. 55-59). Therefore, Applicants respectfully submit that Fesco and Zhang fail to disclose or suggest "*a bottom of the bag is formed by at least partially interconnecting plies of the bag material at least in areas in which plies of the bag material lie one above the other, wherein the plies are interconnected by welding,*" as disclosed in claim 1. Therefore, it is respectfully submitted that claim 1 and its dependent claims 2-9 and 11-18 are allowable.

Claims 20-24 and 26-29 stand rejected under 35 U.S.C. §103(a) for being obvious over Fesco in view of Zhang and further in view of Hall et al. (U.S. Patent No. 6,009,925).

Claim 20, as amended, recites, "A method for manufacturing a filter bag according to claim 1, comprising of steps: a) producing a substantially tubular bag having at least partially closed area on a closed side of the bag; b) *introducing a die from an open side of the bag in a direction of the closed side of the bag so that a bottom is produced by folding the bag over the die*; and c) connecting, by welding, plies in the bottom which, as a result of the folding, are arranged one above the other, wherein, during step a), pre-creases are introduced into the bag material, wherein at least one of the pre-creases is substantially parallel to the partially closed area on a closed side of the bag. "

Hall discloses a method for welding thermoplastic. (See Hall, Abstract). The Hall apparatus includes a welding assembly (60) and a means (80) for feeding a thermoplastic sheet to the welding assembly. (*Id.* at Fig. 2). The welding assembly (60) includes a heated plate and a welding press (61) coupled with a welding tool (64). (*Id.* at col. 9, ll. 13-14). The welding tool (64) includes a welding die "for conducting high frequency energy from the energy generator to the thermoplastic sheets 18 during the welding

process.” (*Id.* at col. 10, ll. 29-32). However, as seen in Fig. 3 of Hall, the two thermoplastic sheets (18) are not formed as a tubular bag, as recited in claim 20. Furthermore, Hall fails to disclose or suggest that the welding die is introduced *from an open side of the bag in a direction of the closed side of the bag so that a bottom is produced by folding the bag over the die* or a bottom of a filter bag formed by *connecting, by welding, plies in the bottom which, as a result of the folding, are arranged one above the other*.

Furthermore, Applicant respectfully submits that the Hall apparatus is not capable of producing a filter bag because, as seen in Fig. 3 of Hall, this apparatus is only capable of welding flat sheets. It is also not capable of *introducing a die from an open side of the bag in a direction of the closed side of the bag so that a bottom is produced by folding the bag over the die*. Therefore, the only process the Hall apparatus **might** be able to perform is forming the edge seams (25) described by Zhang.

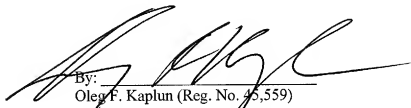
Accordingly, it is respectfully submitted that Hall fails to cure the above-mentioned deficiencies of Fesco and Zhang and that Fesco, Zhang, and Hall, taken alone or in any combination, fail to disclose or suggest “*introducing a die from an open side of the bag in a direction of the closed side of the bag so that a bottom is produced by folding the bag over the die; and...connecting, by welding, plies in the bottom which, as a result of the folding, are arranged one above the other,*” as recited in claim 20. Therefore, it is respectfully submitted that claim 20 and its dependent claims 21-24 and 26-29 are allowable for at least the foregoing reasons presented with regard to claim 1.

**CONCLUSION**

In light of the foregoing, Applicant respectfully submits that all of the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully,

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